DOCUMENT RESUME

ED 395 614 JC 960 365

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TITLE Evaluating the Impact of a Freshman Seminar Program on Student Development and Retention.
PUB DATE Oct 95
NOTE 12p.; Paper presented at the Annual Conference of the North East Association for Institutional Research (22nd, Burlington, VT, October 28-31, 1995).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Persistence; Career Planning; *College Freshmen; Community Colleges; Longitudinal Studies; *Outcomes of Education; Program Effectiveness; *School Holding Power; *School Orientation; Student Adjustment; Student Attrition; *Student Development; Study Skills; Two Year Colleges

ABSTRACT

A longitudinal study was undertaken to assess the effect of a one-credit, 8-week freshman seminar on student development and retention. The study sought to measure student outcomes related to knowledge of college resources and services, utilization of academic support services, increases in self-assessed learning skills, increases in students' career maturity, and retention of students from the first to second semester of their freshman year. For 4 years beginning in spring 1992, students in the course and in a control group completed a questionnaire during the first and last weeks of the semester. Results suggest positive effects of seminar participation on all of the measures specified in the project objectives. With respect to student development and integration into the campus culture, students in the seminar scored consistently higher than students in the control group. In addition, while seminar students rated their own learning skills lower on the pretest than control students, they showed greater gains during the course and had posttest ratings that equaled or exceeded control group self-assessments. Students in the seminar were also far more likely to use tutoring and other academic support services than control students. However, while incremental improvements in retention and academic performance were shown by seminar students, they fell short of the project's goals. Includes detailed tables. Contains four references. (TGI)

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Evaluating the Impact of a Freshman Seminar Program on Student Development and Retention

by

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Presented at
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22nd Annual Conference
Burlington, Vermont
October 28-31, 1995

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Freshman seminar programs are a frequent element in strategies used by colleges to assist students in adjusting to the demands and culture of college life. Proponents of freshman programs stress their effectiveness in improving student retention. The research presented in this paper was designed to assess the impact of a freshman seminar on student development and retention, through the course's development and implementation at a comprehensive community college. Through participation in the development of the course, with surveys to assess student needs and faculty expectations, the institutional research office was able to design assessment instruments and procedures that were integrated in the course structure, and achieved broad cooperation from faculty. In this paper, the results of four years of successive evaluations are presented, which follow the program through piloting, revision, and final implementation phases.

In evaluating the effectiveness of freshman seminar programs, researchers have focused on variables in four categories: student retention, academic performance, knowledge and use of campus resources, and personality development. Fidler and Hunter (1989) reviewed a large number of studies on the impact of freshman programs. They report that the most widely studied variable is student retention, usually defined as reenrollment in the sophomore year, and that positive relationships with freshman seminar participation have been shown. As most colleges allow students to enroll in freshman seminar courses as an elective, some researchers have used matched control groups to reduce the impact of selection bias; some of these studies have also shown positive effects on retention and academic performance. A number of studies report results that are characterized as "compensatory" effects for freshman seminars; students enrolled in the course achieved retention rates and academic performance equal to comparison groups, in spite of the fact that they had weaker academic skills or were shown to be "at risk" for other reasons, such as uncertain career goals. More limited evidence exists that the positive impacts of freshman programs persist over time, and result in higher graduation rates (Starke, 1994).

University 101, the freshman seminar course at the University of South Carolina, has been studied extensively since 1972 (Fidler, 1993). Characteristics of course participants have been compared with students not enrolling in the course; they are more often female, younger, black, have weaker academic skills measured by high school GPA and SAT scores, and come from less affluent families. In spite of these risk factors for attrition, sophomore return rates for freshman seminar students have been equal to or higher than those of non-participants in almost all of the twenty years the program was evaluated, from 1973 to 1993. Return rates for participants ranged from 77.2% - 84.9%, compared with 73.2% - 80.5% for non-participants. Participants were more likely to be aware of and to utilize university resources, and to feel comfortable seeking guidance from a faculty or staff member.

The freshman seminar that is the subject of this paper is a one-credit, eight week course offered to incoming freshman students. It was developed by a committee of faculty and staff who were concerned about student retention, and was implemented over a four-year period with funding from a federal Title

III grant. The course includes units that introduce new students to campus offices and support services; help them to assess their academic strengths and weaknesses and develop successful study skills, explore occupational aptitudes and interests; develop self-assessment and decision-making skills, and practice career planning strategies for achieving short and long-term goals. As of September of 1995, the program has been fully institutionalized and is supported with college funds, having proved highly effective in assisting students to successfully adjust to college, and in significantly increasing retention from first to second semester for freshmen.

METHODS

The Title III funding that supported the seminar imposed requirements for formative and summative evaluations throughout implementation, which provided an ideal context for effective institutional research. Program guidelines required that activity objectives clearly state expected outcomes in terms of product, rather than process, and include a statement of quantifiable change in specific performance measures. The objectives stated desired improvements in performance measures in terms of a specific margin of gain, rather than as differences that achieved specific levels of statistical significance. A typical annual objective for the freshman seminar program might be "By September 1992, 50 liberal arts students who complete the freshman seminar will demonstrate 10% greater use of academic support services, when compared to a control group of non-participating students." Such specificity in the objectives of the project helped to clarify the parameters of the evaluation design, and kept both institutional research and freshman seminar staff focused as they assessed the impact of the program. An external evaluation consultant assisted participants in using internal evaluation results to revise annual objectives and improve program impact.

The freshman seminar was implemented over a four year period beginning in the spring 1992 semester. Curriculum was revised and enrollment was expanded each year. Evaluations were conducted annually, with results reported to the funding agency. The basic evaluation design specified comparison of freshman seminar participants to a control group of non-participating new students. Multiple measures of impact were utilized:

1. Knowledge of college resources and services.
2. Utilization of academic support services.
3. Increases in self-assessed learning skills.
4. Increases in students' "career maturity" (the extent to which they were aware of and practiced effective career planning strategies).
5. Retention of students from the first to second semester of freshman year.

Pre and post seminar testing with a locally developed instrument, designed to assess behaviors and attitudes associated with college success, was the primary means of data collection.

The instrument included questions addressing each of the performance measures specified in the project objectives. It asked students to rate themselves on specific academic skills and study habits, and tested their knowledge of the locations of various campus resources. It included several questions related to career planning strategies and the extent to which students felt they had clear career goals. The end of course assessment repeated most questions, and asked how many times students had used various support services. The questionnaire was administered to freshman seminar sections and to a sample of introductory level general education courses during the first week of classes, and again at the end of the eight-week seminar. In the analysis of pre and post test variables, only the responses from first-time freshmen and new transfers in control group sections were utilized. Reenrollment and

academic performance of seminar participants and the comparison group were tracked through the student information system.

The concept of "career maturity," which was specified in the project proposal as a performance measure, had not been operationally defined. Together, institutional research staff and advisement and counseling personnel developed an eleven item index to assess this aspect of student development; items focus on students' attitudes and behaviors related to choosing and planning a career. The index demonstrated high reliability in pretests of the instrument the semester before the seminar began. The following items were included in the index, with responses on a four-point Likert-type scale.

1. I have thought a lot about what career is right for me.
2. I have looked for information on how to meet my career goals.
3. I've thought about my goals, but making decisions is difficult for me.
4. I have spoken with individuals who work in the career(s) in which I am interested.
5. I have a definite career in mind.
6. I have discussed my career options with a counselor or teacher.
7. I feel I can achieve my career goals.
8. I know what special training or education I need to meet my career goals.
9. I'm not sure what I want to do with my life.
10. I know a lot about what people do in the occupations in which I am interested.
11. I don't have a clear career goal yet, because I need more information.

In the third year of the evaluation, background characteristics and first semester retention of seminar participants and control group students were also compared to those of all entering freshman, to determine whether they were typical of new students, and because of concerns about the size of the control sample that year. In the final year of evaluation, the comparison of characteristics, but not of retention, was repeated.

FINDINGS

Characteristics of Seminar Participants

A comparison of freshman seminar participants and control group students with all entering freshman placed the analysis of seminar outcomes in a larger context. Background characteristics, educational goals, and academic skills of the three groups were examined using data collected at new student orientations in 1993 and 1994. Table 1 compares characteristics of the three groups. Freshman seminar students were not atypical, although they are somewhat more likely to be female and to have been weaker students in high school. Their mean scores on placement tests in reading, writing, and mathematics were lower than both the control group and all freshmen, placing more of them in developmental courses. (See Table 1 below.)

Since each term 25-30% of the students enrolled in the seminar did not complete the course, a similar set of comparisons was made between completers and non-completers. Non-completers were more often male, white, and younger, were enrolled in a service career program, and reported a physical or learning disability. They were less likely to cite job skills as their primary goal, and their placement test scores were slightly lower than those of completers. In the examination of program outcomes that follows, non-completers are *not* included in the analysis of variables from the pre and post-test, as there were no post-test scores available for them. They *are* included in the analysis of retention and academic performance; it was felt that dropping weaker students from the seminar group, but not from the control group, could bias results and magnify positive impacts of the seminar.

Table 1

	Seminar Group		Control Group		All Freshmen	
	1993	1994	1993	1994	1993	1994
STATUS						
First -time freshmen	90.4	89.9	73.8	88.8	100.0	100.0
Readmit	4.3	0.6	0.0	0.9		
New Transfer	5.3	9.6	26.2	10.3		
PROGRAM TYPE						
Transfer	82.7	62.9	41.0	69.8	50.7	67.2
Business	10.1	14.0	56.4	14.4	18.4	14.8
Health	6.1	5.1	2.6	0.9	5.5	0.6
Technical	0.0	1.7	0.0	0.0	7.5	0.9
Service	1.1	15.7	0.0	11.2	11.1	14.2
Latch	0.0		0.0		6.8	
Non-Degree		0.6		3.7		2.3
MEAN AGE	22.0	20.0	22.0	19.4	22.0	20.7
GENDER						
Female	54.4	54.7	42.9	43.3	47.3	48.1
Male	45.5	45.3	57.1	56.7	52.7	51.9
Ethnicity						
White	92.3	85.7	97.4	88.8	75.0	84.7
Black	2.2	3.0	2.6	3.2	2.3	4.3
Other Min.	1.6	8.3	0.0	3.2	4.7	6.8
Not reported	3.9	3.0	0.0	4.8	18.0	4.2
MARRIED	3.3	4.8	9.8	3.2	5.8	6.2
ESL	0.6	6.0	5.1	1.1	4.2	6.2
PHYS/LRN DISABL	7.5	15.4	5.2	10.7	8.5	15.1
HIGH SCHOOL GPA						
Above B	8.1	7.4	12.5	7.3	7.7	7.7
C to B	44.3	43.7	45.0	44.4	53.1	48.1
D to C	28.4	29.5	30.0	21.8	24.0	25.9
Below D	2.1	1.1	0.0	0.4	1.0	0.5
Missing	17.1	18.4	12.5	26.1	14.2	17.8
PRIOR EDUCATION						
High School	74.3	68.4	55.0	62.0	71.9	68.4
Some Courses	7.5	8.9	37.5	10.3	11.4	11.0
Certificate	1.1	2.1	0.0	1.7	2.4	1.9
Associate Degree	0.5	0.5	0.0	0.4	0.7	0.9
Bachelor Degree	0.5	0.5	0.0	0.0	0.7	0.6
Missing	16.1	19.5	7.5	25.6	12.9	17.1

Table 1. cont.	Seminar Group		Control Group		All Freshmen	
	1993	1994	1993	1994	1993	1994
REASON FOR ATTENDING						
Learn Job Skills	29.9	31.1	32.5	20.1	38.8	34.7
Earn Transfer Credits	48.7	44.2	55.0	50.4	41.5	40.8
Personal Interest	3.2	0.0	2.5	1.3	2.9	2.6
Improve Basic Skills	3.2	3.7	0.0	2.1	3.0	3.5
Complete Gen. Ed. Credits	1.6	1.6	2.5	2.6	2.2	2.6
Other	7.0	6.8	5.0	3.4	6.4	6.3
No definite reason	2.7	2.6	0.0	0.9	2.7	2.8
Missing	3.7	10.0	2.5	19.2	2.5	6.7
CAREER PLAN						
Have clear goals	35.3	27.9	42.5	28.6	42.1	37.0
Undecided-need information	28.9	27.9	22.5	24.8	24.7	24.6
Indecisive	23.5	26.3	20.0	20.9	23.2	24.7
Haven't considered goals	6.4	5.8	7.5	6.4	6.1	5.0
Missing	5.9	12.1	7.5	19.2	3.9	8.6
MEAN PLACEMENT TEST SCORES						
Reading Test	28.6	27.1	31.9	30.3	28.3	28.2
Writing Test	3.0	2.9	3.4	3.0	2.9	2.9
Arithmetic Test	25.7	24.6	27.6	26.3	25.3	25.3
Algebra Test	13.2	12.9	18.4	14.7	13.4	13.5

Confidence in College Learning Skills

Students were asked to rate their college learning skills in a number of areas on the pre and post seminar questionnaire. Ratings on individual items were combined in an index with a maximum score of sixteen. Freshman seminar students had consistently lower scores on the pre-test, but showed greater gains during the eight weeks of the course, so that their post-test scores equaled or exceeded those of students in control group classes in all but one semester.

Table 2
Mean Scores, Confidence in College Learning Skills

	Seminar Group			Control Group		
	Pre-Test	Post-Test	Mean Gain (Loss)	Pre-Test	Post-Test	Mean Gain (Loss)
Spring '92	9.73*	12.30**	2.57	10.80*	11.30**	0.50
Fall '92	9.98	11.38	1.40	10.41	11.27	0.87
Fall '93	9.88	11.32	1.44	10.71	12.00	1.29
Fall '94	9.59	10.62	1.03	10.30	11.25	0.95

*p < 003 ** p< 05

Familiarity with College Policies and Procedures

The questionnaire contained five items for rating familiarity with college policies and procedures and ability to access information on campus, these ratings were also combined in an index. The pattern of gain over the period of the seminar was similar to that for learning skills. Seminar students showed significantly lower scores at the beginning of the semester, and made gains that raised their scores above those of the control group by the end of the course, for all four semesters.

Table 3
Mean Scores, Familiarity with College Policies and Procedures

	Seminar Group			Control Group		
	Pre-Test	Post-Test	Mean Gain (Loss)	Pre-Test	Post-Test	Mean Gain (Loss)
Spring '92	11.16*	15.75**	4.59	14.37*	14.09**	(0.28)
Fall '92	12.01	15.28	3.27	13.39	14.30	0.91
Fall '93	11.63	15.31***	3.68	13.68	14.83***	1.15
Fall '94	11.70	14.90	3.20	13.46	14.00	0.54

* p< .000 ** p< .007 ***p< .063

Career Maturity

Mean scores on the career maturity index, described in the methods section, repeated the pattern shown for learning skills and knowledge of policies and procedures: freshman seminar students began the semester with lower scores, showed significantly greater gains, and after eight weeks surpassed the scores of students in the control group in all four years.

Table 4
Mean Scores, Career Maturity

	Seminar Group			Control Group		
	Pre-Test	Post-Test	Mean Gain (Loss)	Pre-Test	Post-Test	Mean Gain (Loss)
Spring '92	28.48*	34.79**	6.31	31.52*	30.77**	(.75)
Fall '92	29.88	33.65	3.77	32.18	33.35	1.17
Fall '93	30.62	34.08	3.46	32.15	33.47	1.32
Fall '94	32.41	34.33	1.92	31.99	31.57	(0.42)

* p< .006 ** p< .025

Knowledge and Utilization of Key Campus Resources

Students were asked to identify the location of key campus resources at the beginning and the end of the freshman seminar, and a total score for correct identifications was computed. By the end of the eight week course, seminar students showed significantly greater knowledge of locations. In addition to being familiar with the locations of campus resources, seminar participants demonstrated greater utilization of a variety of support services, as shown below

Table 5
Mean Scores, Location of Campus Resources

	Seminar Group			Control Group		
	Pre-Test	Post-Test	Mean Gain (Loss)	Pre-Test	Post-Test	Mean Gain (Loss)
Spring '92	7.20*	13.25	6.05	10.30*	12.30	2.00
Fall '92	6.90	13.14**	6.20	8.99	12.00**	3.10
Fall '93	6.83	13.51***	6.68	10.72	11.76***	1.04
Fall '94	7.75	12.98*	5.53	8.86	11.08*	2.22

* p< .000 ** p< .010 *** p<.05

In addition to being familiar with the location of campus resources, seminar participants demonstrated greater utilization of support services. Table 6 displays patterns of service use for Fall 1994; results were similar in other semesters.

Table 6
Utilization of Specific Resources by Groups, Fall 1994

	GROUP PERCENTAGES									
# OF TIMES USED	None		One		Two		Three or more		1, 2, 3, +	
	fs%	c%	fs%	c%	fs%	c%	fs%	c%	fs%	c%
ARC	28	73	23	13	23	3	26	11	72	27
Health Services	89	81	9	10	2	8	0	1	11	19
Faculty Advising	65	81	24	14	9	4	2	1	35	19
Computer/Typing Labs	50	58	20	17	15	9	15	17	50	43
Athletic facilities	76	69	10	6	2	4	11	21	24	31
Registrar's Office	33	49	40	31	17	14	10	6	67	51
Library	22	27	14	14	21	15	43	44	78	73
Advisement/Counseling	55	81	30	15	11	3	4	1	45	19
Placement Office	83	90	13	5	3	5	1	0	17	10
Financial Aid	49	62	12	9	15	9	24	20	51	38
Student Activities	72	78	9	4	9	8	10	10	28	22

One of the most striking differences in the patterns of service use by the seminar and control groups was in utilization of the Academic Resource Center (ARC), the principal means by which students access tutoring and other academic support services. The orientation questionnaire administered before the start of the semester asks respondents to indicate in which of eleven areas they expect to seek help while enrolled, the list of choices includes writing, reading, math, and study skills. Intentions to seek assistance from this questionnaire were compared to patterns of service use on the post-seminar assessment instrument. In both groups, students who before the semester expected to seek help were generally more likely to actually do so. But students in the seminar group were far more likely to utilize support services in these critical academic areas, regardless of their prior perceived needs, than were students in the control group. Table 7 shows the percentage of students who used ARC at least once during the first half of their first semester, broken down by their intentions to seek help with reading, writing, math, or study skills. Because many students will pay a single visit to the ARC as part of a class, the number who used ARC services three or more times is also displayed.

Table 7
ARC Utilization by Prior Intentions to Seek Help

	Used ARC at least Once		Used ARC Three Times or more	
Planned to Seek Help With:	**Seminar**	**Control**	**Seminar**	**Control**
Writing Skills p<.001				
Yes	74%	38%	28%	-
No	66%	23%	25%	11%
Reading Skills p<.01				
Yes	80%	57%	37%	7%
No	66%	18%	23%	9%
Math Skills p<.001				
Yes	74%	33%	35%	15%
No	66%	23%	19%	6%
Study Skills p<.001				
Yes	74%	43%	22%	9%
No	66%	18%	31%	9%

Student Retention and Academic Performance

All of the positive relationships between seminar participation and the various measures of student development and integration into the campus community clearly documented the impact of the seminar on the quality of students' experiences. But retention of students into a second semester remained a critical factor in assessing the value of the freshman seminar to the college. Program staff had from the beginning expressed uneasiness about the likelihood that an eight week class could achieve the improvements in retention rate which were specified in the grant objectives: rates which were 5% higher than the control group in the second year of the project, and 10% higher by the final year. Differences in retention rate were found between the seminar and control groups in most of the semesters studied, as shown below. Table 8 displays credits attempted and earned by seminar and control group students, grade point averages, and reenrollment rates for the semester following seminar participation.

Table 8
Student Retention and Academic Performance

	Seminar Group				Control Group				Norm.
	Spring 92	Fall 92	Fall 93	Fall 94	Spring 92	Fall 92	Fall 93	Fall 94	
Credits-Current									
Attempted	9 80	12 50	12 31	12 13	12 54	11 31	12 45	12 10	11 66
Earned	7 65	10 79	10 88	10 86	11 54	10 75	11 54	10 72	10 52
Credits-Following Semester									
Attempted	11 64	11 46	11 70	11 08	12 33	11 81	10 07	11 15	10 75
Earned	11 20	9 91	10 23	9 89	10 70	10 31	8 75	9 98	9 90
% Re-enrolled	61	77	83*	74	54	67	67*	69	77
% Completed	61	68	78**	65	52	62	57**	62	68
Current GPA	2 27	2 18	2 45	2 41	2 53	2 48	2 83	2 40	2 51
GPA Following Semester	2 68	2 20	2 14	2 40	2 48	2 39	2 35	2 35	2 40

* $p < .014$ ** $p < .005$

DISCUSSION AND CONCLUSIONS

The findings presented in this paper are consistent with those of other studies on the impact of freshman seminar programs. Over a four-year period, the evaluation suggested positive effects of seminar participation on all of the measures specified in the project objectives: awareness of college policies and procedures, knowledge and use of campus resources, confidence in learning skills, development of career planning strategies, and retention to the second semester of the freshman year. On measures of student development and integration into the campus culture, there were consistent patterns of difference between students in the seminar and control group. The incremental improvements that were achieved in retention and academic performance fell somewhat short of the project's goals, possibly demonstrating the operation of "compensatory" effects for weaker students, which have been suggested by other authors.

The Title III objectives did not specify that the project would demonstrate statistically significant differences on performance measures; the magnitude of the achieved improvements by seminar students satisfied the stated evaluation goals for the activity. Nonetheless, it was disappointing to institutional researchers that most tests for significance did not meet a standard that could more clearly limit the possibility of chance effects. This disappointment was somewhat mitigated by the consistent pattern of improvements in multiple measures, over several semesters, which favored seminar participation. As a whole, the data assembled in the evaluation provided ample evidence of the success of the project to the funding agency, and of the potential value of the seminar to the college as a strategy for addressing the problem of student retention.

In a recent paper, Vincent Tinto warns of "retention-related products" which promise colleges a quick-fix to the problem of student retention. "Successful education," he states, "not retention, is the secret of successful retention programs...the success of institutional retention efforts ultimately resides in the institution's capacity to engage faculty and administrators across the campus in a collaborative effort to construct educational settings, classrooms and otherwise, that actively engage students, all students not just some, in learning." It is in this context that the freshman seminar program achieved

its greatest success. Over a period of several years, it served as a catalyst for consideration of the factors that contribute to student success, and involved a significant portion of the campus community in thinking and talking about strategies to improve the quality of students' early experiences at the college. Dozens of faculty team-taught the course with professional staff and administrators, including the president, various deans, the director of institutional research, and student services staff. Instructors received training in the student development issues which were the focus of the course, and met regularly to discuss problems and experiences with the curriculum. The evaluation design requiring assessment of student progress in relation to specific objectives helped faculty to think in terms of encouraging change in students' attitudes and behaviors, in addition to imparting knowledge or developing skills. Extensive evaluation provided the evidence needed to make a strong case for the value of the seminar to both the general faculty and to budget administrators, when the time came to institutionalize the project with college funds. The freshman seminar made a start towards fulfilling Tinto's (1994) recommendation for implementing successful retention programs.

> "The practical question remains as to where and in what form should institutions invest scarce resources to enhance student retention" Here the evidence of effective programs is clear, namely that the practical route to successful retention lies in those programs that ensure from the very outset of student contact with the institution that entering students are integrated into the social and academic communities of the college and acquire the skills and knowledge needed to become successful learners in those communities."

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